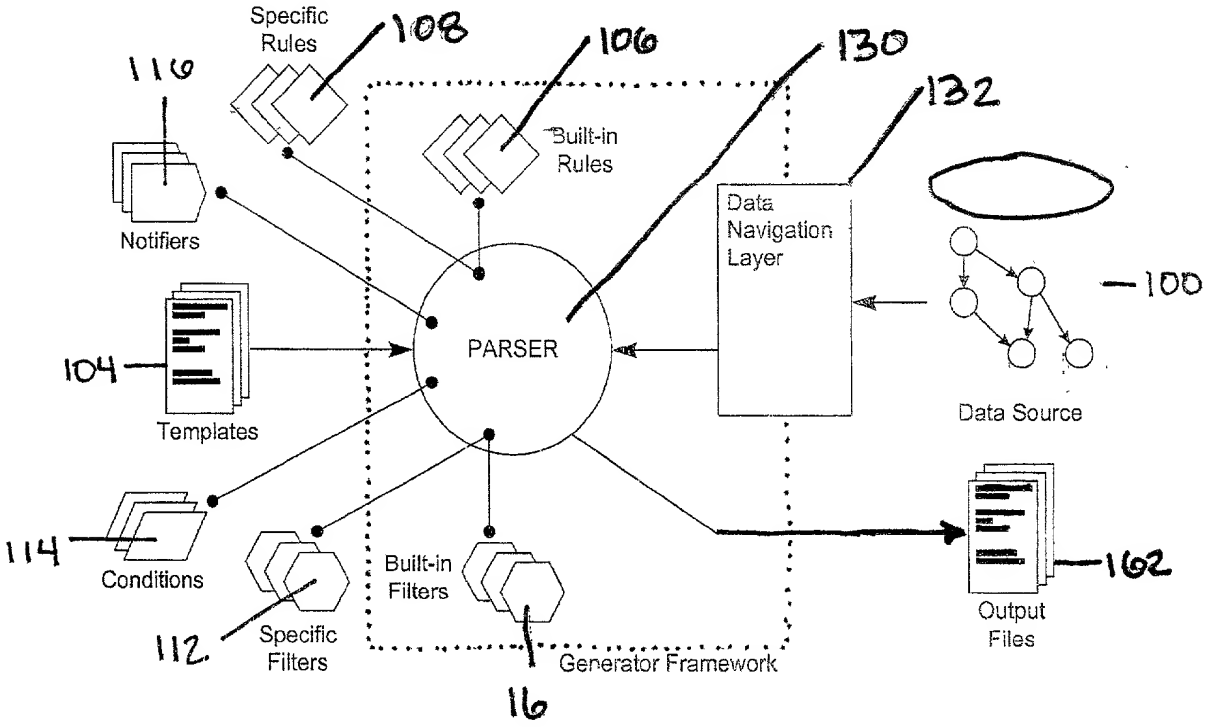
Specific Rules
108
106
130
132
116
Built-in Rules
Notifiers
Data Navigation Layer
100
PARSER
104
Templates
Data Source
114
Conditions
Built-in Filters
162
Output Files
112
Specific Filters
Generator Framework
16

FIGURE 1

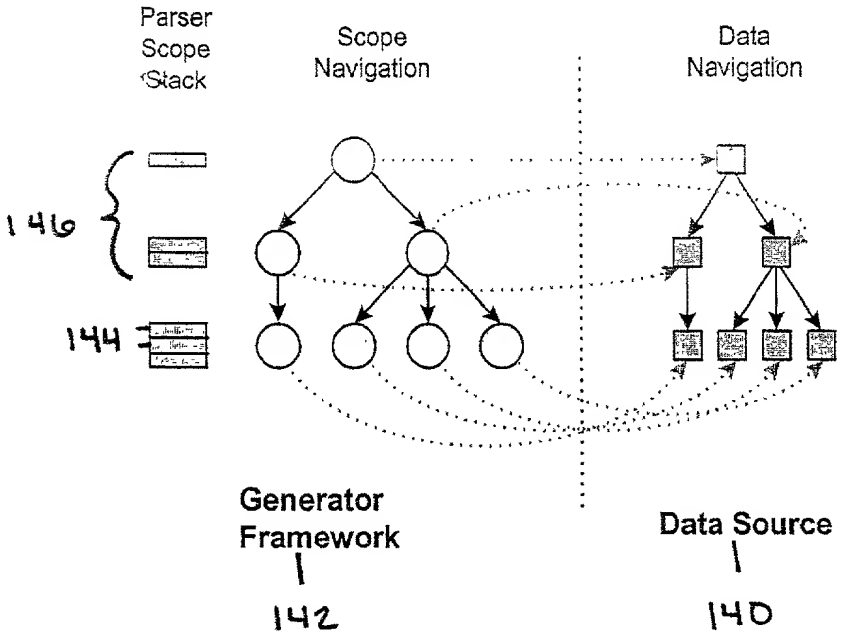
Parser
Scope
Stack
Scope
Navigation
Data
Navigation
146
144
Generator
Framework
142
Data Source
140

FIGURE 2

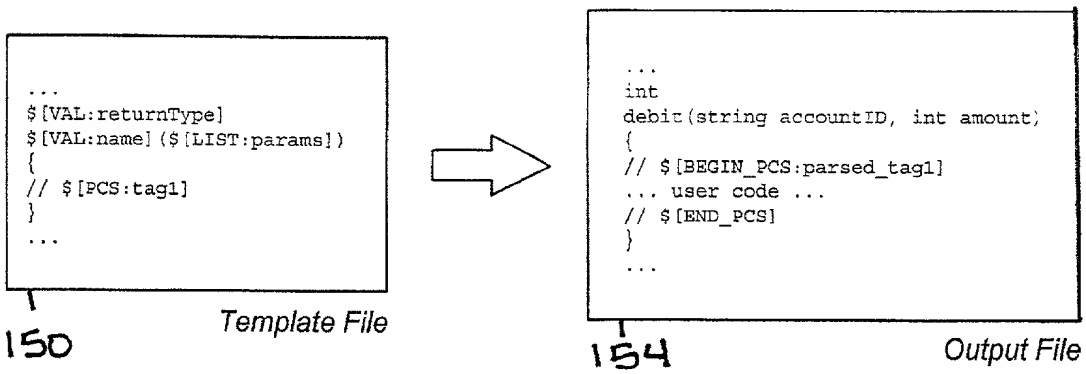
...
$[VAL:returnType]
$[VAL:name]($[LIST:params])
{
// $[PCS:tag1]
}
...
150
Template File
...
int
debit(string accountID, int amount)
{
// $[BEGIN_PCS:parsed_tag1]
... user code ...
// $[END_PCS]
}
...
154
Output File

FIGURE 3

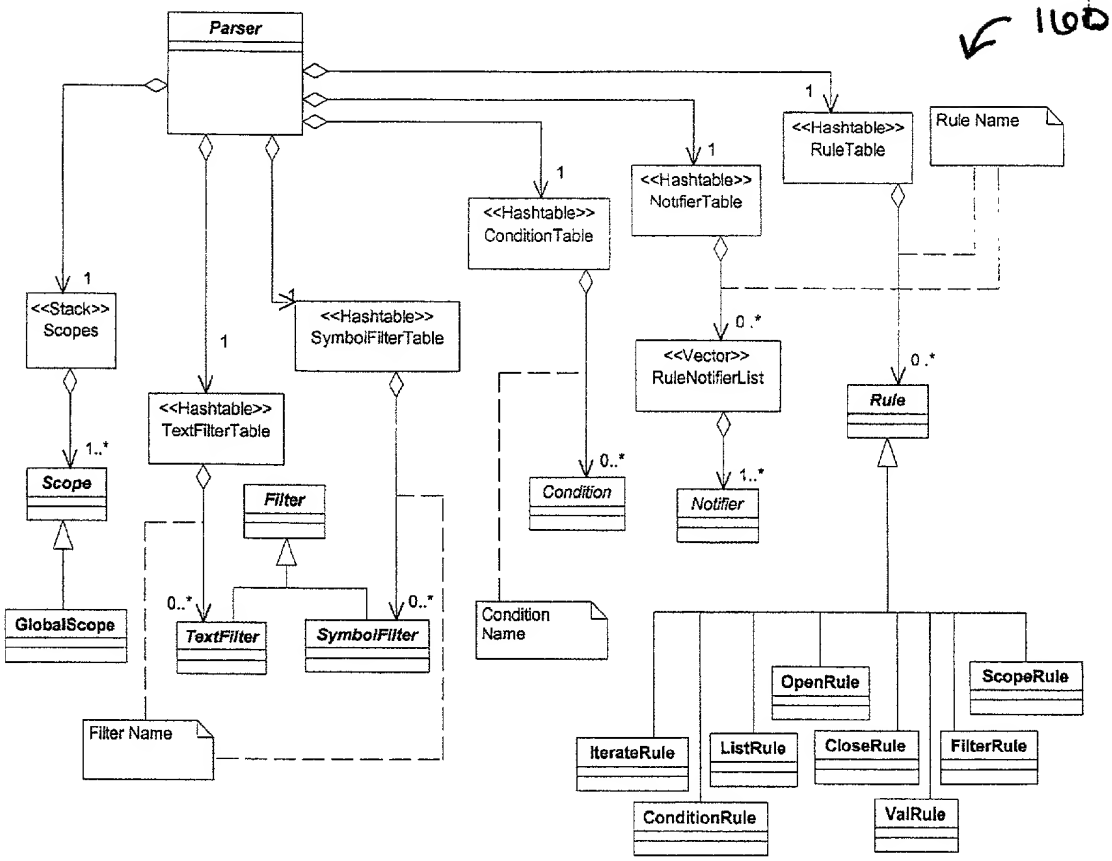
100
Parser
<<Stack>>
Scopes
Scope
GlobalScope
<<Hashtable>>
TextFilterTable
Filter
TextFilter
SymbolFilter
Filter Name
<<Hashtable>>
SymbolFilterTable
<<Hashtable>>
ConditionTable
Condition
Condition Name
<<Hashtable>>
NotifierTable
<<Vector>>
RuleNotifierList
Notifier
<<Hashtable>>
RuleTable
Rule Name
Rule
OpenRule
ScopeRule
IterateRule
ListRule
CloseRule
FilterRule
ConditionRule
ValRule
1
1..*
0..*

FIGURE 4

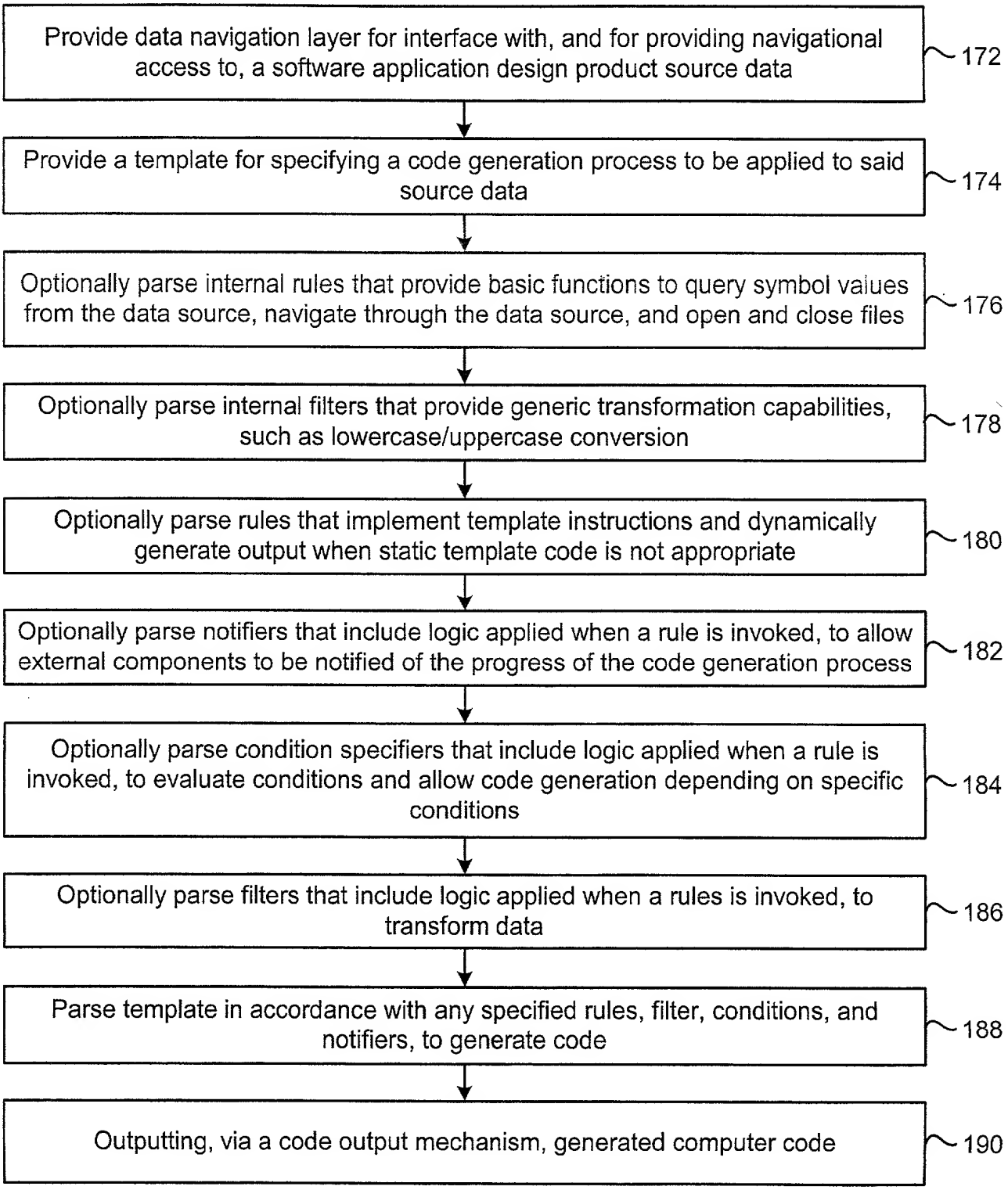
Provide data navigation layer for interface with, and for providing navigational access to, a software application design product source data
172
Provide a template for specifying a code generation process to be applied to said source data
174
Optionally parse internal rules that provide basic functions to query symbol values from the data source, navigate through the data source, and open and close files
176
Optionally parse internal filters that provide generic transformation capabilities, such as lowercase/uppercase conversion
178
Optionally parse rules that implement template instructions and dynamically generate output when static template code is not appropriate
180
Optionally parse notifiers that include logic applied when a rule is invoked, to allow external components to be notified of the progress of the code generation process
182
Optionally parse condition specifiers that include logic applied when a rule is invoked, to evaluate conditions and allow code generation depending on specific conditions
184
Optionally parse filters that include logic applied when a rules is invoked, to transform data
186
Parse template in accordance with any specified rules, filter, conditions, and notifiers, to generate code
188
Outputting, via a code output mechanism, generated computer code
190

FIGURE 5